

Docket No.: 614.1948

Serial No. 09/271,249

**IN THE CLAIMS:**

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 2, 10, 20, 23 and 33 AND AMEND claims 1, 3, 4, 9, 11, 12, 17, 18, 27, 28, 29, 30 and 31 in accordance with the following:

1. (CURRENTLY AMENDED) An authentication apparatus comprising:  
measuring means for measuring biometric information of an individual;  
converting means for carrying out a predetermined conversion process with respect to the biometric information so as to obtain converted biometric information;  
extracting means for extracting feature information from the converted biometric information so as to obtain extracted feature, converted biometric information; and  
verifying means for verifying the extracted feature, converted biometric information, currently obtained for a specific individual, with respect to extracted feature, converted biometric information of individuals which was previously obtained and registered in advance, so as to authenticate the specific individual; and  
input means for inputting parameters used by said converting means for the predetermined conversion process.
2. (CANCELLED)
3. (CURRENTLY AMENDED) The authentication apparatus as claimed in claim 21, wherein said converting means uses personal information related to the individual as the parameters.
4. (CURRENTLY AMENDED) The authentication apparatus as claimed in claim 21, wherein said verifying means receives the registered information by a communication which is made via a medium, and said converting means uses an enciphering key which is used for the communication as the parameters used for the predetermined conversion process.

Docket No.: 614.1948

Serial No. 09/271,249

5. (ORIGINAL) The authentication apparatus as claimed in claim 1, wherein the registered information is prestored in a recording medium, and said verifying means reads the registered information from the recording medium.

6. (ORIGINAL) The authentication apparatus as claimed in claim 5, wherein said measuring means, said converting means, said extracting means and said verifying means are provided in a client computer, and said recording medium is read in the client computer.

7. (ORIGINAL) The authentication apparatus as claimed in claim 5, wherein said measuring means, said converting means, said extracting means and said verifying means are provided in a client computer, and said recording medium is read in a server computer which is coupled to the client computer via a network and the registered information read from the recording medium is supplied to said verifying means in the client computer via the network.

8. (ORIGINAL) The authentication apparatus as claimed in claim 5, wherein said measuring means, said converting means and said extracting means are provided in a client computer, said verifying means is provided in a server computer which is coupled to the client computer via a network, and said recording medium is read in the server computer.

9. (CURRENTLY AMENDED) An authentication apparatus comprising:  
measuring means for measuring biometric information of an individual;  
extracting means for extracting feature information from the biometric information so as to obtain extracted feature, biometric information;

converting means for carrying out a predetermined conversion process with respect to the extracted feature, biometric information so as to obtain converted and extracted feature biometric information; and

verifying means for verifying converted and extracted feature, biometric information, currently obtained for a specific individual, with respect to converted and extracted feature, biometric information, which was previously obtained and registered in advance, so as to authenticate the specific individual;

input means for inputting parameters used by said converting means for the predetermined conversion process.

Docket No.: 614.1948

Serial No. 09/271,249

10. (CANCELLED)

11. (CURRENTLY AMENDED) The authentication apparatus as claimed in claim 409, wherein said converting means uses personal information related to the individual as the parameters.

12. (CURRENTLY AMENDED) The authentication apparatus as claimed in claim 409, wherein said verifying means receives the registered information by a communication which is made via a medium, and said converting means uses an enciphering key which is used for the communication as the parameters used for the predetermined conversion process.

13. (ORIGINAL) The authentication apparatus as claimed in claim 9, wherein the registered information is prestored in a recording medium, and said verifying means reads the registered information from the recording medium.

14. (ORIGINAL) The authentication apparatus as claimed in claim 13, wherein said measuring means, said extracting means, said converting means and said verifying means are provided in a client computer, and said recording medium is read in the client computer.

15. (ORIGINAL) The authentication apparatus as claimed in claim 13, wherein said measuring means, said extracting means, said converting means and said verifying means are provided in a client computer, and said recording medium is read in a server computer which is coupled to the client computer via a network and the registered information read from the recording medium is supplied to said verifying means in the client computer via the network.

16. (ORIGINAL) The authentication apparatus as claimed in claim 13, wherein said measuring means, said extracting means and said converting means are provided in a client computer, said verifying means is provided in a server computer which is coupled to the client computer via a network, and said recording medium is read in the server computer.

17. (CURRENTLY AMENDED) An authentication apparatus for authenticating an individual by verifying input biometric information with respect to registered biometric information, comprising:

Docket No.: 614.1948

Serial No. 09/271,249

measuring means for measuring biometric information of the individual;

converting means for carrying out a predetermined conversion process, selected from a group consisting of expansion, compression, rotation, deformation, affine transformation, morphing, coordinate transformation, function process, parameter conversion, frequency conversion, time base conversion, and rearrangement of bit sequences, with respect to the measured biometric information so as to obtain converted biometric information;

registering means for registering converted biometric information in advance; and

verifying means for verifying the converted biometric information, obtained by said converting means, with respect to the converted biometric information registered in said registering means, so as to authenticate the individual;

input means for inputting parameters used by said converting means for the predetermined conversion process.

18. (CURRENTLY AMENDED) An authentication apparatus comprising:

measuring means for measuring biometric information of an individual;

converting means for carrying out a predetermined conversion process with respect to the biometric information so as to obtain converted biometric information;

registering means for registering previously obtained converted biometric information, in advance; and

verifying means for verifying converted biometric information of a specific individual, currently obtained by said converting means, with respect to converted biometric information, previously obtained and registered in advance in said registering means, so as to authenticate the specific individual;

input means for inputting parameters used by said converting means for the predetermined conversion process.

19. (PREVIOUSLY PRESENTED) A computer-readable storage medium which stores a program for causing a computer to authenticate an individual, comprising:

measuring means for causing the computer to measure biometric information of an individual;

converting means for causing the computer to carry out a predetermined conversion process with respect to the biometric information so as to obtain converted biometric information;

extracting means for causing the computer to extract feature information from the converted biometric information so as to obtain extracted feature, converted biometric

Docket No.: 614.1948

Serial No. 09/271,249

information; and

verifying means for causing the computer to verify currently obtained extracted feature, converted biometric information for a specific individual with respect to extracted feature, converted biometric information which was previously obtained and registered in advance, so as to authenticate the specific individual.

20. (CANCELLED)

21. (ORIGINAL) The computer-readable storage medium as claimed in claim 19, wherein said verifying means causes the computer to read the registered information from a recording medium which prestores the registered information.

22. (PREVIOUSLY PRESENTED) A computer-readable storage medium which stores a program for causing a computer to authenticate an individual, comprising:

measuring means for causing the computer to measure biometric information of an individual;

extracting means for causing the computer to extract feature information from the measured biometric information so as to obtain extracted feature information;

converting means for causing the computer to carry out a predetermined conversion process with respect to the extracted feature information so as to obtain converted, extracted feature biometric information; and

verifying means for causing the computer to verify currently obtained, converted and extracted feature biometric information with respect to converted and extracted feature biometric information, previously obtained and registered in advance, so as to authenticate the individual.

23. (CANCELLED)

24. (ORIGINAL) The computer-readable storage medium as claimed in claim 22, wherein said verifying means causes the computer to read the registered information from a recording medium which prestores the registered information.

Docket No.: 614.1948

Serial No. 09/271,249

25. (PREVIOUSLY PRESENTED) A computer-readable storage medium which stores a program for causing a computer to authenticate an individual by verifying input biometric information with respect to registered biometric information, comprising:

measuring means for causing the computer to measure biometric information of the individual;

converting means for causing the computer to carry out a predetermined conversion process, selected from a group consisting of expansion, compression, rotation, deformation, affine transformation, morphing, coordinate transformation, function process, parameter conversion, frequency conversion, time base conversion, and rearrangement of bit sequences, with respect to the biometric information so as to obtain converted biometric information;

registering means for causing the computer to register the converted biometric information in advance; and

verifying means for causing the computer to verify the converted biometric information obtained by said converting means with respect to the converted biometric information registered by said registering means, so as to authenticate the individual.

26. (PREVIOUSLY PRESENTED) A computer-readable storage medium which stores a program for causing a computer to authenticate an individual, comprising:

measuring means for causing the computer to measure biometric information of an individual;

converting means for causing the computer to carry out a predetermined conversion process with respect to the biometric information so as to obtain converted biometric information;

registering means for causing the computer to register previously obtained, converted biometric information in advance; and

verifying means for causing the computer to verify converted biometric information of a specific individual, currently obtained by said converting means, with respect to converted biometric information, previously obtained and registered in advance in said registering means, so as to authenticate the specific individual.

27. (CURRENTLY AMENDED) An authentication apparatus, comprising:

a measuring unit measuring biometric information of an individual;

an input part inputting parameters;

a converter converting the biometric information in accordance with the parameters input

Docket No.: 614.1948

Serial No. 09/271,249

by the input part and outputting converted biometric information;

an extractor extracting feature information from the converted biometric information and outputting extracted feature, converted biometric information; and

a comparator comparing converted and extracted feature, biometric information, currently obtained for a specific individual, with converted and extracted feature, biometric information which was previously obtained and registered in advance, and outputting a comparison signal for use in authenticating the specific individual.

28. (CURRENTLY AMENDED) An authentication apparatus comprising:

a measuring unit measuring biometric information of an individual;

an extractor extracting feature information from the biometric information and outputting extracted feature information;

an input part inputting parameters;

a converter converting the extracted feature information in accordance with the parameters input by the input part and outputting converted and extracted feature biometric information; and

a comparator comparing converted and extracted feature biometric information, currently obtained for a specific individual with respect to converted and extracted feature biometric information, which was previously obtained and registered in advance, and outputting a comparison signal for use in authenticating the specific individual.

29. (CURRENTLY AMENDED) A computer-readable memory medium which stores a program for causing a computer to generate a comparison signal for use in authenticating an individual, by:

measuring biometric information of an individual;

inputting parameters;

converting the measured biometric information in accordance with the input parameters to produce converted feature biometric information;

extracting the converted feature biometric information to produce converted and extracted feature biometric information; and

comparing converted and extracted feature biometric information currently obtained for a specific individual with converted and extracted feature information, which was previously obtained and registered in advance, and outputting the comparison signal for use in authenticating the specific individual.

Docket No.: 614.1948

Serial No. 09/271,249

30. (CURRENTLY AMENDED) A computer-readable memory medium which stores a program for causing a computer to generate a comparison signal for use in authenticating an individual, by:

measuring biometric information of an individual;

extracting feature information from the measured biometric information and producing extracted feature information;

inputting parameters;

converting the extracted feature information in accordance with the input parameters and producing converted and extracted feature biometric information; and

comparing converted and extracted feature biometric information currently obtained for a specific individual with converted and extracted feature biometric information previously obtained and registered in advance, and outputting the comparison signal for use in authenticating the specific individual.

31. (CURRENTLY AMENDED) An authentication method for authenticating an individual by verifying input biometric information with respect to registered biometric information, comprising:

measuring biometric information of an individual;

inputting parameters;

carrying out a predetermined conversion process with respect to the measured biometric information in accordance with the input parameters so as to obtain converted biometric information;

registering the converted biometric information in advance as registered, converted biometric information; and

verifying converted biometric information, currently obtained by the predetermined conversion process for a specific individual, with respect to converted biometric information, previously obtained and registered in advance, so as to authenticate the specific individual.

32. (PREVIOUSLY PRESENTED) The authentication method as claimed in claim 31, wherein the predetermined conversion process is selected from a group consisting of expansion, compression rotation, deformation, affine transformation, morphing, coordinate transformation, function process, parameter conversion, frequency conversion, time base conversion, and rearrangement of bit sequences.



Docket No.: 614.1948

Serial No. 09/271,249

33. (CANCELLED)